REMARKS

Applicant respectfully requests reconsideration of this application in view of the following remarks.

Claim 1 has been currently amended. No claims are canceled. No new matter has been added.

Applicants reserve all rights with respect to the applicability of the Doctrine of equivalents.

The Examiner rejected claims 1-4, 7, 10 and 12 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maliszewski et al. (US Patent no. 6,467,233, hereinafter "Maliszewski") in view of Ollgaard (US Patent Publication no. 2003/0147753, hereinafter "Ollgaard").

Claim 1, as amended, recites:

> A modular kit for a tower of a wind energy turbine, comprising:
>
> a first conical tower segment comprising a steel tube having a predetermined length,
>
> a second conical tower segment comprising a steel tube having a predetermined length, **wherein the first conical tower segment is to be coupled to the second conical tower segment in an assembled condition**, the diameter of the first conical tower segment at a lower end being equal to the diameter of the second conical tower segment at an upper end, and
>
> **a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length, wherein the second conical tower segment is to be coupled to the first variable-length cylindrical tower segment in the assembled condition, and**
>
> **wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment.** (Emphasis added).

The Office Action characterizes the conical ring 56 in Figure 2 of Maliszewski as being a first conical tower segment and the conical ring 58 as being the second conical tower segment.

Applicants respectfully disagree because amended claim 1 requires that "the diameter of the first conical tower segment at a lower end being equal to the diameter of the second conical tower segment at an upper end." Figure 2 illustrates that the diameter of ring 56 at a lower end is NOT equal to the diameter of the ring 58 at an upper end.

The Office Action indicates that Maliszewski fails to disclose the first conical tower segment is to be coupled to the second conical tower segment in an assembled condition. Applicants agree that Maliszewski fails to teach or disclose the limitation "wherein the first conical tower segment is to be coupled to the second conical tower segment in an assembled condition." In a similar manner, Maliszewski also fails to teach or disclose the limitation "wherein the second conical tower segment is to be coupled to the first variable-length cylindrical tower segment in the assembled condition" because ring 22, which is being characterized as a variable-length ring, is separated from ring 58 by a plurality of rings (50, 48, 46, 44, 42, 40, 38, 56, 36, 34, 32, 30, 28, 26, 24) in the assembled condition illustrated in Figure 2. Ring 22 is also separated from ring 56 by a plurality of rings.

The Office Action reads as follows.

> A first variable-length cylindrical tower segment (22, figure 2) comprising a steel tube (column 2 lines 15-18 teach steel construction) having a length that can be varied. (The examiner construes that since Maliszewski discloses towers between 60 and 80 meters are comprised of three sections, the lengths of those sections would need to be variable lengths. For instance, to create a tower with a height of 60 meters, three 20 meter segments would be used, with the three segment lengths adding up to the total length of 60 meters. In order to create an 80 foot tower using three segments, three sections approximately 26.7 meters in length would be used. Since different length tower segments would need to be used to create the towers of Maliszewski, the lengths of the sections would need to be varied, thus, the limitations of the claim as amended are met). (Office Action, 02/02/2010, page 3).

The applicants respectfully disagree with the characterization of the ring 22 of Maliszewski as being a **variable-length** cylindrical tower segment.

As indicated on page 10 in the Applicants' previous Amendment, the Examiner is not free to construe the ring 22 of Maliszewski in any manner he pleases. The ring 22 must be interpreted based on the specification of Maliszewski. The Applicants are making no assertion regarding the interpretation of the claims as the Office Action on page 15 mistakenly indicates.

Even though Maliszewski teaches that the tower can range in height from 32 to over 80 meters, nothing in Maliszewski teaches that the first bottom ring 22 is a **variable-length segment** that can be **varied between a predetermined minimum length and a predetermined maximum length.** In fact, it appears that Maliszewski explicitly teaches that the height of the tower can only be changed by adding additional sections. In particular, Maliszewski teaches that for towers less than 60 meters, two sections are used, namely bottom section 12 and upper section 14. Maliszewski at col. 2, lines 36-38, Figures 1-2. For towers between 60 to 80 meters, three sections are used, namely the bottom, upper, and middle sections (not illustrated), and for the towers over 80 meters, four sections are used, namely the bottom and upper sections, and two additional sections. *Id.* at col. 3, lines 22-26.

The Examiner construes Maliszewski to teach that the ring 22 would be a first length for a 60m tower and second longer length for a 80m tower.

However, Maliszewski does not teach that any sections are varied in height, or that the ring 22 is varied in height, but rather that the height of the tower is changed by adding additional sections. Thus, the first bottom ring 22 is not a variable-length section that has a length that can be varied between different lengths. As such, Maliszewski fails to teach "**a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length**," as recited in amended claim 1.

Amended claim 1 also recites "wherein the length of the **first variable-length cylindrical tower segment** can be adapted to the necessary height of the tower between its minimum height and its maximum height, **the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment.**"

The Office Action indicates that it would have been obvious to one of ordinary skill in the art to determine that the different segments of the towers of Maliszewski have

maximum and minimum predetermined lengths in order to create towers at the desired height specification using an exact amount of segment sections.

Maliszewski teaches that the conical **transition** ring 56 is separated from the conical **transition** ring 58 with rings 50, 48, 46, 44, 42, 40, and 38. Conical **transition** ring 58 is separated from the ring 22 with rings 36, 34, 32, 30, 28, 26, and 24. (See figures 2, 4, and 5). As discussed above, it appears that Maliszewski explicitly teaches that the height of the tower can only be changed by adding additional sections. Thus, one of ordinary skill in the art reading Maliszewski would determine that a minimum height tower would use ring 22, 24-26, transition ring 58, rings 38-50, and transition ring 56 for a tower less than 60m. A taller tower or maximum height tower would require these rings, which form sections 12 and 14, and two additional sections. *Id.* at col. 3, lines 22-26. One of ordinary skill in the art would NOT find that the minimum height of the tower in Maliszewski is the sum of the conical **transition** rings 56 and 58 and the minimum length of the ring 22. Nor would one of ordinary skill in the find that the maximum height of the tower is the sum of the conical **transition** rings 56 and 58 and the minimum length of the ring 22. In fact, one of ordinary skill in the art would likely find that the sum of the conical **transition** rings 56 and 58 and the length of the ring 22 results in a tower height that is **less** than a radius of the rotor of the wind turbine generator 20. This configuration would render the wind turbine generator completely inoperable for its intended use because the rotor would not be able to rotate even in windy conditions.

It is respectfully submitted that it would NOT have been obvious to one of ordinary skill in the art to modify Maliszewski to obtain the limitations of amended claim 1.

Accordingly, Maliszewski also fails to teach or suggest the limitations "a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length, wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the

predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment" as recited in amended claim 1.

It is respectfully submitted that Ollgaard fails to cure the numerous deficiencies of Maliszewski. Ollgaard teaches a wind turbine having conical subsections 11-14 that are coupled together in an assembled condition.

Ollgaard fails to teach or suggest the limitation "wherein the second conical tower segment is to be coupled to the first variable-length cylindrical tower segment in the assembled condition" because Ollgaard teaches that the subsections 11-14 are conical in order to increase strength and save materials at the same time. Ollgaard also fails to teach or suggest the limitations "a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length, wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment" as recited in amended claim 1.

It is respectfully submitted that Maliszewski does not suggest a combination with Ollgaard, and Ollgaard does not suggest a combination with Maliszewski because Ollgaard teaches away from such combination. Maliszewski discloses towers having a plurality of rings that are conical and also cylindrical while Ollgaard discloses forming a tower with conical subsections 11-14. These subsections 11-14 are conical in order to increase strength and save materials at the same time. It would be impermissible hindsight to combine Maliszewski with Ollgaard based on applicants' own disclosure.

Furthermore, even if Maliszewski and Ollgaard were combined, such a combination would lack the limitations "wherein the second conical tower segment is to be coupled to the first variable-length cylindrical tower segment in the assembled condition" and "a first variable-length cylindrical tower segment comprising a steel tube

having a length that can be varied between a predetermined minimum length and a predetermined maximum length, wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment" as recited in amended claim 1.

Therefore, in view of the above distinction, neither Maliszewski nor Ollgaard, individually or in combination, disclose each and every limitation of claim 1. As such, claim 1 is not rendered obvious by Maliszewski in view of Ollgaard under 35 U.S.C. § 103(a).

It is submitted that claims 2-4, 7, 10, 12, and 14 are not rendered obvious by Maliszewski in view of Ollgaard under 35 U.S.C. § 103(a) given that claims 2-4, 7, 10, 12 and 14 depend from and include the limitations of one of the corresponding independent claims 1 and 13.

Claims 5, 6, and 13-16 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maliszewski in view Ollgaard in view of Tadros (U.S. Publication No. 2003/0000165, hereinafter "Tadros").

Independent claim 13 contains similar limitations but not identical compared to independent claim 1. As discussed above, Maliszewski and Ollgaard fail to teach or suggest all of the features of the independent claim 1. Tadros does not cure those deficiencies.

For similar reasons, independent claim 13 is not rendered obvious by Maliszewski in view of Ollgaard in view of Tadros under 35 U.S.C. § 103(a).

Claims 5, 6, and 14-16 directly or indirectly depend from independent claims 1 or 13. Additionally, claim 5, as amended, includes "a further tower segment that is formed of a prestressed-concrete tube comprising a door opening and having a length...." Claim 15 recites "wherein the further tower segment is formed of a prestressed-concrete tube

having a door opening…". Claim 13 recites "a further tower segment comprising prestressed-concrete having a door opening…"

The Office Action indicates that Maliszewski fails to disclose a lower tower segment that is formed of a prestressed concrete tube. (Office Action, 02/02/10, page 10). Applicants agree that Maliszewski fails to disclose a lower tower segment that is formed of a prestressed concrete tube. Maliszewski also fails to teach or suggest a tower segment that is formed of a prestressed-concrete tube having a door opening.

Tadros discloses a precast post-tensioned segmental pole system capable of supporting a load is provided. The pole system includes a plurality of pole segments that use connectors and strands to anchor them together. (Tadros, Abstract). Pole segments 12 may be formed of various types of concrete. (Tadros, paragaraph [0030]).

In contrast to claims 5, 13, and 15, Tadros fails to teach or suggest a **tower segment that is formed of a prestressed-concrete tube comprising a door opening** because Tadros merely discloses concrete pole segments. Tadros is silent regarding a prestressed-concrete **tube** and also is silent regarding the tower segment having a **door opening**. Thus, Tadros fails to teach or suggest the limitations of amended claims 5, 13, and 15.

The Office Action characterizes the steel ring 22 having a door opening of Maliszewski as being the further tower segment of claims 5 and 15. According to the Examiner, it would be obvious to one of ordinary skill in the art to modify the steel ring 22 with concrete to provide a tower having increased compression strength compared to that of a metal base.

However, Maliszewski teaches a submerged concrete foundation 18 that is coupled to the ring 22 with a flange 17. Maliszewski has no need to replace the steel ring 22 with concrete because of the submerged concrete foundation 18. Additionally, Maliszewski discloses that in the preferred embodiment, a door 21, is placed in the bottom section 14, to permits access to the interior of the tower for painting, bolt tightening or wind turbine maintenance. In a preferred embodiment, the door is a water resistant door, such as a door with an encapsulated gasket, which additionally, can be locked. Maliszewski at col. 3, lines 36-41. Maliszewski also discloses that on the interior of the tower, is welded a ladder assembly having parallel legs and rungs disposed

between the legs and affixed thereto as detailed in FIG. 9. The ladder is preferably made from of a polymer, PVC, fiberglass, plastic coated metal, laminate structure or combinations of those materials. The ladder is installed to be spaced from the sides of the tower using supporting brackets, which enable maintenance people to use the interior of the tower and repair the wind turbine without the need for any additional safety equipment, such as a safety harness. The unique ladders are constructed so that the back of the maintenance person is in close contact with the interior wall of the tower so that climbing occurs more safely than other position, preferably no more than thirty inches away from the tower wall. Maliszewski at col. 3, lines 35-48. Figures 2 and 4 illustrate the ring 22 having a door 21 with a ladder L1.

A combination of Maliszewski and Tadros as suggested by the Examiner would replace the steel ring 22 with concrete and tensioning cables in the center of the concrete such that maintenance person can not access the interior of the tower. Maintenance people would be unable to access the ladder and interior of the tower. The unique ladder and door would be rendered inoperable for their intended use. Additionally, concrete and steel are completely different materials having different properties. These materials will respond differently to tensile and compressive forces. The Examiner's proposed combination would have an unpredictable result that may result in a collapse of the modified base segment as proposed by the Examiner. Thus, it would NOT be obvious to one of ordinary skill in the art to combine Maliszewski and Tadros as suggested by the Examiner.

Furthermore, even if Maliszewski and Tadros were combined, such a combination would lack the limitation "a further tower segment that is formed of a prestressed-concrete tube comprising a door opening and having a length…." as recited in claim 5, the limitation "wherein the further tower segment is formed of a prestressed-concrete tube having a door opening…" as recited in claim 15, and the limitation "a further tower segment comprising prestressed-concrete having a door opening…" as recited in claim 13.

Applicants respectfully submit that claims 5, 6, and 13-16 are patentable over the combination of cited references because the combination does not teach or suggest all of the features of the claims.

Accordingly, Applicants request that the rejection of claims 5, 6, and 13-16 under 35 U.S.C. §103(a) be withdrawn.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maliszewski in view of Ollgaard in view of Tadros in view of Farber (5,513,477).

Claims 8 and 9 directly or indirectly depend from the independent claim 1. As discussed above, Maliszewski, Ollgaard, and Tadros fail to teach or suggest all of the features of claim 1. Farber does not cure those deficiencies. Accordingly, Applicants request that rejection of claims 8 and 11 under 35 U.S.C. §103(a) be withdrawn.

Claim 11 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maliszewski in view of Ollgaard in view of Farber. Claim 11 directly or indirectly depends from the independent claim 1. As discussed above, Maliszewski and Ollgaard fail to teach or suggest all of the features of claim 1. Farber does not cure those deficiencies. Accordingly, Applicants request that the rejection of claim 11 under 35 U.S.C. §103(a) be withdrawn.

CONCLUSION

It is respectfully submitted that in view of the amendment and remarks set forth herein, the rejections have been overcome. If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Jeremy A. Schweigert at (408) 720-8300.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,

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